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ABSTRACT

The present invention relates to a process for producing an optically active 1,4-pentanediol by asymmetrically reducing 5-hydroxy-2-pentanone, which is easily available at low cost. The present invention also relates to a process for producing an optically active 1-substituted 2-methylpyrrolidine including sulfonylating the optically active 1,4-pentanediol to convert it to an optically active sulfonate compound, and reacting the compound with an amine. According to the processes of the present invention, an optically active 1,4-pentanediol and an optically active 1-substituted 2-methylpyrrolidine, which are useful as an intermediate for medicines and an intermediate for agricultural chemicals, can be simply produced from an inexpensive starting material.